

# CIVIL AND ENVIRONMENTAL ENGINEERING (MENG)

College of Engineering

Program Website (<https://www.engineering.cornell.edu/cee/meng/>)

CIP: 14.0801 | HEGIS: 0908.00 | NYSED: 13327

## Program Description

The Master of Engineering (M.Eng.) in Civil and Environmental Engineering degree is a course work and project-oriented program. It is normally completed in two semesters of intensive study. Thirty credit hours are required, within which there is a three credit M.Eng. project and core required classes, with the remaining coursework selected to provide a focus area of specialization. Credits consist of course work, team projects, and dynamic class discussions.

Courses in supporting areas come from many disciplines, including architecture, biology, computer science, economics, engineering management, materials science, microbiology, and operations research to name just a few.

All students enrolled in the Civil & Environmental Engineering M.Eng. can mix and match courses depending on their specific interests.

Students apply into one of three concentrations: Environmental Engineering, Structural Engineering, and Transportation Systems Engineering.

## Environmental Engineering

The concentration focuses on building domain knowledge, advancing technical toolkit, and developing skills. Students may further focus their studies in the following specializations including: environmental and water resource systems engineering or sustainable energy systems.

## Structural Engineering

The concentration develops knowledge in state of the art and emerging techniques in structural behavior and design to develop resilient, sustainable, and advanced structures. Students can choose from three tracks: Behavior & Design, Advanced Materials, and Analysis & Computation.

## Transportation Systems Engineering

The specialization integrates concepts for a variety of disciplines with a focus on transportation planning, design, and analysis.

## Program Information

- Instruction Mode: In Person
- Location: Ithaca, NY
- Minimum Credits for Degree: 30

## Program Requirements

### Environmental Engineering

Code	Title	Hours
<b>Engineering Methodology</b>		
Select one of the following:		
CEE 5930	Data Analytics	4

CEE 5980	Decision Framing and Analytics	3
----------	--------------------------------	---

### Engineering Applications

Select two of the following:

CEE 5420	Energy Technologies and Subsurface Resources	3
CEE 6210	Renewable Energy Systems	3
CEE 6530	Water Chemistry for Environmental Engineering	3
CEE 6560	Physical and Chemical Process	3

### Additional Required Courses

Select one of the following:

CEE 5051	Project in Environmental Engineering	3
CEE 5052	Project in Environmental Engineering	3

### On-campus Graduate-level Elective

## Structural Engineering

Code	Title	Hours
<b>Core Courses</b>		
CEE 5071	Professional Experience in Structural Engineering	3
MAE 5700	Finite Element Analysis for Mechanical and Aerospace Design	4
MSE 5802	Materials Structure and Mechanical Properties	3

### Additional Recommended Courses

CEE 5760	Behavior and Design of Concrete and Masonry Structures	4
CEE 6780	Structural Dynamics and Earthquake Engineering	3
CEE 6070	Seminar - Civil Infrastructure	0.5

### On-Campus Graduate-level Electives

## Transportation Systems Engineering

Code	Title	Hours
<b>Core Courses</b>		
CEE 5930	Data Analytics	4
CEE 6620	Analysis and Control of Transportation Systems and Networks	3
CEE 6640	Microeconometrics of Discrete Choice	3
CEE 6648	Sustainable Transportation Systems Design	3
CRP 5520	<sup>1</sup>	

### Additional Required Courses

Select one of the following:

CEE 5061	Project in Transportation Engineering	3
CEE 5062	Project in Transportation Engineering	3

### On-campus Graduate-level Electives

<sup>1</sup> Students can replace this course with any course from City & Regional Planning (CRP) transportation policy course.

## University Graduation Requirements Requirements for All Students

In order to receive a Cornell degree, a student must satisfy academic and non-academic requirements.

### Academic Requirements

A student's college determines degree requirements such as residency, number of credits, distribution of credits, and grade averages. It is

the student's responsibility to be aware of the specific major, degree, distribution, college, and graduation requirements for completing their chosen program of study. See the individual requirements listed by each college or school or contact the college registrar's office (<https://registrar.cornell.edu/service-resources/college-registrar-directory/>) for more information.

## Non-academic Requirements

**Conduct Matters.** Students must satisfy any outstanding sanctions, penalties or remedies imposed or agreed to under the Student Code of Conduct (Code) or Policy 6.4. Where a formal complaint under the Code or Policy 6.4 is pending, the University will withhold awarding a degree otherwise earned until the adjudication process set forth in those procedures is complete, including the satisfaction of any sanctions, penalties or remedies imposed.

**Financial Obligations.** Outstanding financial obligations will not impact the awarding of a degree otherwise earned or a student's ability to access their official transcript. However, the University may withhold issuing a diploma until any outstanding financial obligations owing to the University are satisfied.

## Graduation Requirements for Master of Engineering Degree (M.Eng.) Programs Requirements

The following are general requirements for graduation that apply to all Master of Engineering degrees offered on the Ithaca campus. The individual program pages provide additional information about discipline-specific requirements.

### Credits and Residency Units

- Satisfactory completion of 30 technical credits, of which:
  - At least 21 credits must be earned at Cornell. (Some M.Eng. programs allow up to 9 transfer credits of letter-graded coursework completed outside of Cornell to be applied to the M.Eng. degree.)
  - At least 12 credit hours must be in coursework from the home M.Eng. program (as determined by the program).
  - A maximum of two credit hours graded on an S/U basis may be included.
- The credit hours of any course in which a student receives a grade below C- will not count toward the Master of Engineering degree.
- Students must maintain a course load of at least 12 credit-bearing hours<sup>1</sup> each semester.
- Students may not enroll in more than 20 credit-bearing hours per semester.
- Students must complete two full-time residency units<sup>1</sup> (semesters) as registered M.Eng. students. Winter and summer sessions do not count as residency units.

<sup>1</sup> Course load and residency unit exceptions apply for Distance Learning program students, employee degree program students, and Industrial Partnership Program students. The residency unit requirement is one full-time registered semester for Early Admit M.Eng. students and certain Cornell MPS/MS/PhD student transfers.

- Courses covering subject matter previously taken at Cornell may not be repeated for credit.
- Satisfactory completion of an engineering design project bearing 3 or more credit hours and including a formal written report.

### Other Requirements

- A grade-point average of 2.50 or above is required across all Cornell courses which count for credit towards the M.Eng. degree.
- Students must complete all degree requirements within four calendar years of their first enrollment in the M.Eng. program (six years for distance learning students), inclusive of any leaves of absence.
- Students must complete the M.Eng. Exit Survey prior to graduation.

### Courses

- Only program-approved courses at the 5000 level and above may count toward the M.Eng. degree.